

### Claims

1. A method of preparing a vector, the method comprising steps of:  
providing at least two isolated nucleic acid molecules, each of which contains a  
portion of vector sequence;  
5 providing at least one isolated nucleic acid molecules containing insert sequence;  
and  
admixing the nucleic acid molecules with one another under linkage conditions so  
that a hybrid molecule in which each of the isolated molecules is linked together is  
produced.
- 10 2. The method of claim 1 wherein:  
the isolated nucleic acid molecules each contain at least one overhang that is  
complementary with an overhang on at least one of the other molecules; and  
the step of admixing comprises admixing under ligation conditions.
- 15 3. The method of claim 1 wherein:  
the isolated nucleic acid molecules each contain at least one intronic element that  
is characterized by an ability to trans-splice with a compatible intronic element on at least  
one of the other molecules, and  
20 the step of admixing comprises admixing under ligation conditions.
4. The method of any one of claims 1-3, further comprising a step of:  
introducing the hybrid molecule into a cell.

5. The method of claim 1 wherein each of the isolated vector molecules contains at least a portion of a vector element selected from the group consisting of replication elements, vector detection elements, expression elements, gene fusion elements, protein fusion elements, polylinker elements, and combinations thereof.

6. A hybrid molecule assembled according to the method of claim 1.

7. A collection of vector fragments, each of which contains at least a portion of a vector element selected from the group consisting of replication elements, vector detection elements, expression elements, gene fusion elements, protein fusion elements, polylinker elements, and combinations thereof.

8. A method of providing biotechnology reagents, the method comprising steps of: providing a menu of vector fragments, each of which contains at least a portion of a vector element selected from the group consisting of replication elements, vector detection elements, expression elements, gene fusion elements, protein fusion elements, polylinker elements, and combinations thereof; receiving from a user a request for at least one vector fragment; and providing the requested vector fragment to the user.

9. The method of claim 8, wherein:

the step of providing a menu comprises providing a World Wide Web at which the user may enter selections.

10. The method of claim 8 or claim 9, wherein:

5 the step of receiving comprises receiving a request for at least two vector fragments; and

the step of providing comprises:

linking the requested vector fragments to one another as a hybrid molecule; and

10 providing the hybrid molecule to the user.

11. A method of preparing a vector, the method comprising steps of:

providing at least two isolated nucleic acid molecules, each of which contains a portion of vector sequence and each of which comprises a single-stranded portion at a terminus thereof, at least two such single-stranded portions being complimentary to one another; and

15 admixing the nucleic acid molecules with one another under conditions that allow hybridization of the complementary single-stranded portions.

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